



Caring for Hurricane-Damaged Palms



The first step in developing a strategy for salvaging hurricane-damaged palms is to assess the damage that they have received.

Uprooted palms, especially those most recently planted, should be placed upright as soon as possible and replanted at the same depth at which they stood previously. If necessary, support bracing should be applied to the trunk. Short lengths of 2x4 lumber should be banded or strapped to the trunk. A foundation of burlap or asphalt paper can be placed around the trunk under the lumber. Support braces, also 2x4 (or 4x4 on very large specimens) are then nailed into the smaller pieces. Under no circumstances should nails be driven directly into a palm trunk. Such damage is permanent, and provides entryway for pathogens and possibly insect pests as well.

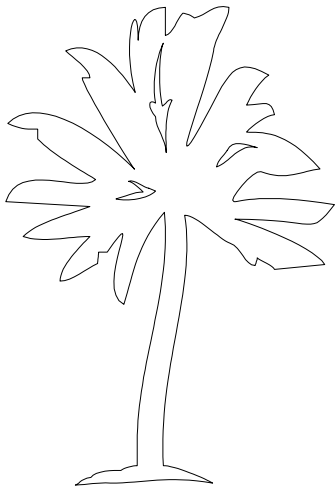
These braces should be maintained for at least six months. Broken leaves may be trimmed. As long as no undue stresses were received by the bud in the crown, blown-over palms should recover quickly once righted. If the palm cannot be attended to quickly, the exposed root ball should be covered with burlap or similar material or else kept moist enough to prevent the roots from drying out and dying.

If the trunk of a single-stemmed (versus clustering or clumping) palm is broken—whether completely severed at the base or anywhere along its length, or splintered or sharply bent (kinked) at some point along its length—that palm is irredeemably damaged and cannot be saved. Palm stems have no ability to heal as do broad-leaved trees. Clustering or clumping palms, however, continuously produce new stems and should not be removed, even if all conspicuous, tall stems are badly damaged. Broken stems of a clustering palm should be carefully cut out as close to their base as possible. Application of fungicide after this operation is recommended, since stumps can provide entryway for disease organisms.

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Even though a palm may have been left standing after the hurricane's passage, severe stresses to the crown and, most importantly, the irreplaceable bud or "palm heart" may have been experienced. This sort of damage is not readily visible at first, but can lead to decline later in the year, especially if disease organisms attack the weakened tissue. Application of a prophylactic spray or bud drench to the crown of valuable palms may thus be advisable to help prevent loss due to bacterial and fungal rot of injured tissue.



Copper-based chemicals will provide some anti-bacterial action, but should not be repeated more than twice because of the possibility of copper phytotoxicity. A tank mix of a copper hydroxide compound and a mancozeb fungicide or other compatible broad-spectrum fungicide can be used to drench the bud area.

Some palms, though standing, may have lost most if not all of their leaves. These should be treated as above. If the crown of a palm was partially snapped off the top of the trunk, recovery may still be possible if the bud or apical meristem was situated below the point of breakage. Such specimens will need to be monitored in the months to come.

Salt tolerance of palm species is not well-documented in the literature, and the information available is often contradictory. If palms were inundated with salt water in the root zone, flushing with fresh water as soon as possible will minimize damage from salt burn. Of course, this is easier said than done in the hardest hit areas. The following species have traditionally been considered the most salt tolerant of the more commonly cultivated palms:

- *Allagoptera arenaria* Seashore palm
- *Coccothrinax alta* Silver palm
- *Coccothrinax argentata* Silver palm
- *Coccothrinax crinita* Old man palm
- *Coccothrinax miraguama* Miraguama palm
- *Cocos nucifera* Coconut
- *Hyophorbe lagenicaulis* Bottle palm
- *Hyophorbe verschaffeltii* Spindle palm
- *Hyphaene* spp. Gingerbread or Duompalms
- *Phoenix dactylifera* Date palm
- *Pritchardia pacifica* Fiji fan palm
- *Pritchardia thurstonii* Thurston fan palm
- *Pseudophoenix sargentii* Buccaneer palm

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| ◦ <i>Sabal palmetto</i> | Cabbage palm, sabal |
| ◦ <i>Serenoa repens</i> | Saw palmetto |
| ◦ <i>Thrinax morrisii</i> | Key thatch palm |
| ◦ <i>Thrinax radiata</i> | Florida thatch palm |
| ◦ <i>Zombia antillarum</i> | Zombie palm |

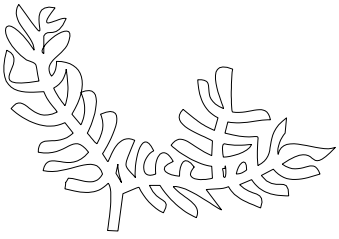
These species are best able to withstand salt exposure and remedial action should first be applied to palms not on the list.

“Shade-grown container palms, if otherwise undamaged, face the threat of sunburn where shadehouses were torn down or shade cloth blown off.”

Fertilizer should not be immediately applied to the root zone of any palm that was uprooted by the storm. A soluble micronutrient spray can be applied to the crown at the same time as a fungicide if desired, though the value of doing this to a damaged palm has never been objectively proven. A light application of "palm special" granular fertilizer can be broadcast or banded around the palm (keeping fertilizer clear of the trunk base) once new growth is underway and new roots begin to emerge from the root initiation zone at the base of the trunk. It will take at least several months for the re-establishment of overturned palms to get fully underway.

Shade-grown container palms, if otherwise undamaged, face the threat of sunburn where shadehouses were torn down or shade cloth blown off. As little as 1 day without shade is sufficient to burn palm leaves that have developed under heavy shade. If shade can be re-applied quickly in some form, the palms should recover. Growers will have to judge if the damage renders a particular species beyond redemption. Obviously, faster growing species will recover more quickly. High value species (Kentia palms, for example) should also receive priority. One area of commercial palm nurseries should be designated as the "first aid" station, and irrigation and shade returned to that area as quickly as possible. High value palms considered salvageable can then be moved to that central area while rebuilding and clean-up takes place elsewhere on the nursery. Container palms exposed to salt water need to be washed off and/or the root zone flushed with fresh water as quickly as possible to prevent salt damage. Salvaged palms should be treated with prophylactic fungicide sprays as for field-grown material.

For the following 1 to 2 years, hurricane-damaged palms should be monitored carefully. Remember that stressed palm crowns may not immediately show damage, but loss of the palm can still occur as much as 2 years after the stresses are received.



- Assess the damage. Don't waste time on palms that cannot be saved.
- Get toppled palms standing and supported as quickly as possible.
- Apply fungicide to the crown and bud region. Micronutrient can be added to the spray if desired.
- Do not allow root balls to dry out during re-establishment.
- Monitor damaged palms carefully during the next 1 to 2 years.